

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
TYLER DIVISION**

**CHEETAH OMNI LLC**

**Plaintiff,**

**vs.**

**SAMSUNG ELECTRONICS AMERICA,  
INC., and MITSUBISHI DIGITAL  
ELECTRONICS AMERICA, INC.,**

**Defendants.**

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**CASE NO. 6:08 CV 279**

**MEMORANDUM OPINION**

This Memorandum Opinion construes the disputed terms in U.S. Patent No. 7,339,714 (the “’714 Patent”).<sup>1</sup>

**BACKGROUND**

The ’714 Patent issued on March 4, 2008 to Mohammed N. Islam and claims an apparatus and method for a light processing system, which includes an array of optical signal processing devices. The array of devices is operable to receive part of a signal and to modulate the signal based on a control signal received from a controller. Some of the processing devices include a plurality of partially reflective mirrors that are disposed outwardly from an inner conductive layer and are operable to receive part of the signal. In one embodiment, some of the mirrors are operable to partially rotate in response to the control signal. The partial rotation results in reflecting part of the signal in one direction.

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<sup>1</sup> The Court held a *Markman* hearing for this case regarding the ’714 Patent and U.S. Patent No. 7,116,862 (the “’862 Patent”). Since the hearing, Defendant Samsung Electronics America, Inc. has been dismissed from the case (Docket No. 137) and the ’862 Patent has been dismissed from the case (Docket No. 124).

As optical systems continue to increase the volume and speed of information communicated, the need for methods and apparatus operable to facilitate high speed optical signal processing also escalates. The '714 Patent seeks to provide an efficient and cost effective mechanism for facilitating high speed signal processing using a diffraction based technology, while reducing or eliminating some of the shortcomings typically associated with diffraction based signal processing.

Cheetah Omni LLC ("Cheetah") alleges that Mitsubishi Digital Electronics America, Inc. ("Mitsubishi") infringes Claims 18 and 19 of the '714 Patent.<sup>2</sup>

### APPLICABLE LAW

"It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude.'" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). In claim construction, courts examine the patent's intrinsic evidence to define the patented invention's scope. *See id.*; *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). This intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1314; *C.R. Bard, Inc.*, 388 F.3d at 861. Courts give claim terms their ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the entire patent. *Phillips*, 415 F.3d at 1312–13; *Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003).

The claims themselves provide substantial guidance in determining the meaning of particular claim terms. *Phillips*, 415 F.3d at 1314. First, a term's context in the asserted claim can be very

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<sup>2</sup> Claims 18 and 19 of the '714 Patent are reproduced in Appendix A.

instructive. *Id.* Other asserted or unasserted claims can also aid in determining the claim’s meaning because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term’s meaning. *Id.* For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id.* at 1314–15.

“[C]laims ‘must be read in view of the specification, of which they are a part.’” *Id.* (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). “[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). This is true because a patentee may define his own terms, give a claim term a different meaning than the term would otherwise possess, or disclaim or disavow the claim scope. *Phillips*, 415 F.3d at 1316. In these situations, the inventor’s lexicography governs. *Id.* Also, the specification may resolve ambiguous claim terms “where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone.” *Teleflex, Inc.*, 299 F.3d at 1325. But, “[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.” *Comark Commc’ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); *see also Phillips*, 415 F.3d at 1323. The prosecution history is another tool to supply the proper context for claim construction because a patent applicant may also define a term in prosecuting the patent. *Home*

*Diagnostics, Inc., v. Lifescan, Inc.*, 381 F.3d 1352, 1356 (Fed. Cir. 2004) (“As in the case of the specification, a patent applicant may define a term in prosecuting a patent.”).

Although extrinsic evidence can be useful, it is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc.*, 388 F.3d at 862). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id.* at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert’s conclusory, unsupported assertions as to a term’s definition is entirely unhelpful to a court. *Id.* Generally, extrinsic evidence is “less reliable than the patent and its prosecution history in determining how to read claim terms.” *Id.*

## CLAIM TERMS

### **Optical signal**

Claim 18 of the ’714 Patent contains the term “unmodulated optical signal.” The parties agree that an “unmodulated optical signal” is an optical signal that has not been processed by the array of optical signal processing devices, but disagree about the construction of the term “optical signal.” Cheetah contends that the term means “light of more than one wavelength,” while Mitsubishi contends that it means “light beam carrying information.” The parties disagree whether the term “optical signal” requires the light to carry information.

Cheetah asserts that the ’714 specification teaches that the input signal light includes light having “a plurality of wavelength signals.” ’714 Patent, col. 17:31–33. Cheetah also asserts that the

United States Patent and Trademark Office (“Patent Office”), using the broadest reasonable interpretation in light of the specification, interpreted the term to include incandescent light emitted from a typical lamp used in projection systems. Mitsubishi counters that Cheetah’s construction renders the term “signal” meaningless and would encompass, for example, sunlight within the meaning of “optical signal.” Additionally, Mitsubishi argues that the ’714 specification supports a construction of light carrying information by citing to the Overview, which states that “[a]s optical systems continue to increase the volume and speed of *information communicated*, the need for methods and apparatus operable to facilitate high speed *optical signal* processing also escalates.” ’714 Patent, col. 1:28–31 (emphasis added).

Cheetah’s construction would reduce “optical signal” to merely light or a lightbeam. Although the Patent Office used the broadest reasonable interpretation in light of the specification, the Court must first focus on the claims and specification as a whole under the guidance of *Phillips*. *Phillips*, 415 F.3d at 1314–15 (stating with regard to the specification “[u]sually, it is dispositive; it is the single best guide to the meaning of a disputed term”). The specification is directed towards transmitting information optically and heavily emphasizes this functionality, and Cheetah’s construction does not conform with this. *See e.g.* ’714 Patent, col. 18:61–67, col. 19:8–10, col. 20:14–19.

The use of the term “signal” itself also implies information. Cheetah argues that an optics dictionary defines the term “optical signal” as “a signal that (a) contains optical power and (b) may be transmitted (i) in an optical waveguide . . . or optical integrated circuit (OIC) or (ii) as a lightbeam in free space.” Even this extrinsic evidence cited by Cheetah supports the inclusion of “information,” because the definition itself begins with “a signal” and states that this signal may be

transmitted as a lightbeam. This definition does not define “optical signal” as merely a lightbeam, but as “a signal” that may transmitted as a lightbeam.

Even accepting Cheetah’s interpretation of the prosecution history, the specification of the ’714 Patent gives clear guidance that the term “signal” has meaning that cannot be ignored under *Phillips*. See *Phillips*, 415 F.3d at 1314–15. When the intrinsic record is viewed as a whole, an “optical signal” is more than merely light or a lightbeam. Accordingly, the Court adopts Mitsubishi’s construction and construes the term “optical signal” to mean “light beam carrying information.”

#### **A first signal part and a second signal part**

Claims 18 and 19 of the ’714 Patent contain the term “a first signal part and a second signal part,” which is preceded by “to separate the unmodulated optical signal into” and “separating an optical signal into,” respectively. Cheetah contends that the term means “to separate the optical signal into as least two parts, for example, into two or more wavelengths,” while Mitsubishi contends that it means “first and second copies of the ‘unmodulated optical signal.’” The parties disagree whether the term “a first signal part and a second signal part” requires separation into two identical copies.

The relevant embodiment of Claims 18 and 19 is Figure 15, as cited by both parties, which is described as:

Fiber optic tap 1018 receives optical signals 1012 and sends one copy of the signal including at least header information 1014 to demultiplexer 1024, and sends another copy of the signal including at least payload information 1016 to delay line 1022.

’714 Patent, col. 21:6-10. Cheetah asserts that the two portions of the signal may be different from each other, as one may be only the header and the other may be only the payload portion of the

signal. According to Cheetah, the specification confirms that “copy” does not mean the separated portions are the same, but merely portions of the whole. Cheetah also asserts that the prosecution history confirms its construction because the prior art cited by the Patent Office examiner did not have identical copies. Mitsubishi counters that the specification makes clear that the signal is split into copies and that nothing suggests the copies are different from each other.

The passage from the specification cited by both Cheetah and Mitsubishi makes clear that what is separated need not be identical “copies” and may contain different information, because the fiber optic tap may send one copy that includes at least header information and one copy that includes at least payload information. Furthermore, Figure 15 below shows the header 1014 alone at the input to DEMUX 1024 and the payload 1016 alone at the input to the DEMUX 1032. '714 Patent, fig. 5.

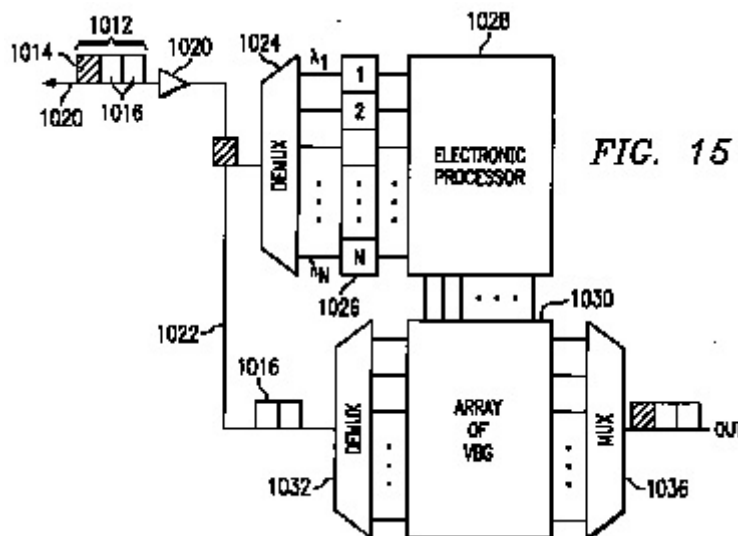


Figure 15 of the '714 Patent

The specification also describes the electronic processor 1028 processing the header information 1014 and the optical add/drop multiplexer array 1030 processing the payload 1016. '714 Patent, col. 21:11–32.

Mitsubishi's use of the term "copies" causes confusion as to whether the copies need to be identical or not, particularly in light of the specification that discloses the portions do not need to be identical. Additionally, Cheetah has not provided support for the inclusion of "two or more wavelengths," other than asserting that it is known to those of skill in the art that headers and payloads may be distinguished by wavelength. Accordingly, the Court construes the term "a first signal part and a second signal part" to mean "to separate the unmodulated optical signal into at least two parts."

### **Light pipe**

Claim 18 of the '714 Patent contains the term "light pipe." Cheetah contends that the term means "an optical fiber or waveguide," while Mitsubishi contends that it means "fiber-optic line." The parties disagree whether the term "light pipe" is limited to a fiber-optic line.

Cheetah asserts that the Patent Office construed the term in a broad manner not limited to fiber optics when applying the prior art and that the term "waveguide" encompasses this broader interpretation. Cheetah also asserts that those skilled in the art consider the term to include both fiber and optical waveguides. Mitsubishi counters with its own extrinsic evidence arguing that "light piping" is commonly understood to mean the use of optical fibers.

Although portions of the specification describe the use of optical fiber, the specification does not provide further emphasis on the importance of fiber versus other alternatives, nor does it provide clear guidance that the invention should be limited to fiber. *See* '714 Patent, col. 20:31–39, col.



21:6–10. Also, the less significant extrinsic evidence cited by the parties appears conflicting at best. *See Phillips*, 415 F.3d at 1317 (stating that “while extrinsic evidence can shed useful light on the relevant art, . . . it is less significant than the intrinsic record in determining the legally operative meaning of claim language” (internal citations omitted)). Finally, as Mitsubishi argues, the term “waveguide” is wholly absent from the intrinsic record. Accordingly, when looking at the intrinsic record as a whole, the Court construes the term “light pipe” to mean “conduit for transmitting light, for example, a fiber-optic line.”

### **An array of optical signal processing devices**

Claims 18 and 19 of the '714 Patent contain the term “an array of optical signal processing devices.” Cheetah contends that the term means “a plurality of mirrors arranged in a regular pattern that process the optical signal,” while Mitsubishi contends that it means “an array of variable blazed gratings.” The parties disagree whether the term “an array of optical signal processing devices” is limited to variable blazed gratings.

Cheetah asserts that the specification indicates that configurations other than variable blazed grating may be used for the optical signal processing devices. Cheetah also points to the prosecution history as providing evidence as to how the Patent Office interpreted this term to include digital micro-mirrors, which are not variable blazed gratings, when applying the prior art. Mitsubishi counters that all of the signal processing devices disclosed in the specification are variable blazed gratings. Mitsubishi also points out that the title of the patent is “Variable Blazed Grating Based Signal Processing” and that “blazed grating” appears 145 times in the specification, and argues that collectively these statements demonstrate that blazed gratings are part the invention, not merely a preferred embodiment.

Although the specification provides extensive reference to the use of blazed gratings, it states that “any shape can be used consistent with the invention” for the strips and “switches implementing different geometric configurations or different numbers of blazed grating elements, circulators, reflective surfaces, or other optical elements are contemplated as being within the scope of the invention.” ’714 Patent, col. 3:37–42, col. 14:58–65. In addition, Claims 18 and 19 themselves provide additional explicit detail regarding the array of optical signal processing devices without limiting the devices to variable blazed gratings. ’714 Patent, col. 25:48–67, col. 26:16–22. Further, the fact that the title of the patent is “Variable Blazed Grating Based Signal Processing” is of very little significance to claim construction. *See Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1313 (Fed. Cir. 1999) (stating the fact that “the patent title has only been mentioned once by [the Court of Appeals for the Federal Circuit] in the context of claim construction and, even then, merely to make an illustrative point in one sentence, makes a powerful statement as to the unimportance of a patent’s title to claim construction”). Thus, limiting the array to variable blazed gratings would be improperly importing a limitation of the preferred embodiment. *Phillips*, 415 F.3d at 1323 (stating that “the danger of reading limitations from the specification into the claim” should be avoided). Accordingly, the Court construes the term “an array of optical signal processing devices” to mean “a plurality of devices arranged in a regular pattern that process the optical signal.”

**The partial rotation resulting in a reflection of the at least some of the portion of the first signal part and the rotation of the at least some of the mirrors resulting in a reflection of the at least some of the portion of the optical signal**

Claims 18 and 19 of the ’714 Patent contain the terms “the partial rotation resulting in a reflection of the at least some of the portion of the first signal part” and “the rotation of the at least some of the mirrors resulting in a reflection of the at least some of the portion of the optical signal,”

respectively. Cheetah contends that the terms mean “rotating the mirrors to reflect at least some portion of the first signal part,” while Mitsubishi contends that “this limitation requires that the ‘array of optical signal processing devices’ operate in the disclosed ‘reflection mode,’ i.e., redirecting light from a mirror that is parallel to the inner conductive layer.” The parties disagree whether the “rotation” term is limited to the mirrors being parallel to the inner conductive layer.

Cheetah asserts that the language before the terms, “wherein at least some of the mirror are operable to undergo a partial rotation in response to the control signal” and “rotating at least some of the mirrors in response to one or more control signals,” provides for rotation of the mirrors. Thus, requiring the mirrors to be parallel to the inner layer would contradict the claim language. Mitsubishi counters that the specification describes two modes of operation, a “reflection mode,” for example in position 14' of Figure 1b, and a “diffraction mode,” for example in position 14" of Figure 1b. '714 Patent, fig. 1b. Mitsubishi argues that the patentee acted as its own lexicographer to create a particular distinction between reflection and diffraction so the terms must have different meanings.

The claim language surrounding the term clearly recites the mirrors as being rotated. All embodiments of the specification describe the mirrors as being rotated when in a non-parallel position relative to the inner layer. *See* '714 Patent, figs. 1a–6b. Furthermore, Figure 1b of the specification states that “output 30 represents the portion of input beam 20 *reflected* by strip 14a at position 14'” where position 14' is a rotated non-parallel position. '714 Patent, col. 4:38–39 (emphasis added). Thus, the word “reflecting” cannot limit the claims to a parallel arrangement as Mitsubishi argues, because the specification refers to a rotated mirror providing a reflected output. *See id.* The claims do not use the term “reflection mode,” and when the explicit claim language is

read in light of the specification as a whole, it is understood that the mirrors could be rotated non-parallel to the inner layer while still providing a reflection. Accordingly, the Court adopts Cheetah's construction and construes the terms "the partial rotation resulting in a reflection of the at least some of the portion of the first signal part" and "the rotation of the at least some of the mirrors resulting in a reflection of the at least some of the portion of the optical signal" to mean "rotating the mirrors to reflect at least some portion of the first signal part."

### **Moveable reflector**

Claims 18 and 19 of the '714 Patent contain the term "moveable reflector." Cheetah contends that the term means "a mirror that moves as a result of an applied voltage," while Mitsubishi contends that it means "a variable blazed grating." The parties disagree whether the term "moveable reflector" is limited to a variable blazed grating.

Cheetah asserts that the claim language does not require a particular reflector other than one that moves, as the specification states that "switches implementing different geometric configurations or different numbers of blazed grating elements, circulators, reflective surfaces, or other optical elements are contemplated as being within the scope of the invention." '714 Patent, col. 14:58–65. Cheetah asserts that this passage teaches that blazed gratings are only one of multiple possible different configurations for the moveable reflector. *See also* '714 Patent, col. 20:39–45 ("demultiplexer 1024 may comprise, for example, a wavelength grating router").

Mitsubishi counters that the term "moveable reflector" never appears in the specification. Further, Mitsubishi argues that the claims use the term "mirrors," therefore the term "moveable reflector" must mean something other than "mirror." Mitsubishi also notes that the specification does not disclose that "reflective surfaces or other optical elements" are capable of moving as a result

of applied voltage, only variable blazed gratings. Finally, Mitsubishi asserts that the only disclosure in the specification where a reflecting device moves as a result of an applied voltage relates to variable blazed grating devices. *See* '714 Patent, figs. 11g–h.

The Court determines that Mitsubishi is correct that the terms “reflector” and “mirror” are not synonymous, but Cheetah is also correct that variable blazed gratings are only one type of “reflector.” Thus, both parties’ proposed constructions are rejected as they could mislead the jury. Having resolved the parties’ dispute, *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008), the Court find that the claim language is clear to a lay jury who will understand the term “moveable reflector,” and the term does not require construction. *See Orion IP, LLC v. Staples, Inc.*, 406 F. Supp. 2d 717, 738 (E.D. Tex. 2005) (Davis, J.) (stating that “although every word used in a claim has meaning, not every word requires construction” in declining to construe claim terms).

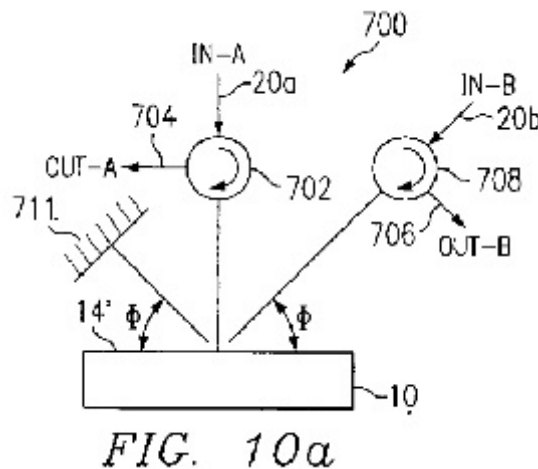
### **Output interface**

Claims 18 and 19 of the '714 Patent contain the term “output interface.” Cheetah contends that the term means “the portion of the system that receive the output signal,” while Mitsubishi contends that it means “output port for connecting to another system or device.” The parties disagree whether the term “output interface” requires connection to another system.

Cheetah asserts that the specification illustrates that the output interface is simply the portion of the system labeled “OUT,” citing to Figures 10a–d, 11a–g, and 15 of the '714 Patent, and that nothing in the specification requires the output to be for connecting to another system. Further, Cheetah asserts that the Patent Office construed this term to cover a projection lens, which is not a port for connecting to another system, of prior art projector. Mitsubishi counters that Cheetah’s

construction ignores the term “interface” and renders the term meaningless. Mitsubishi also argues through extrinsic dictionary evidence that the term “interface” is well understood to be the boundary of two systems.

Mitsubishi has not pointed to any intrinsic evidence requiring that the output interface connect to another system or device. Further, the specification merely describes an output as, for example, OUT-A 704 and OUT-B 706 in Figure 10a below without any connection to any system or device.



*Figure 10a of the '714 Patent*

This disclosure is consistent with the claims, which do not require the output interface to be connected to another system or device. *See e.g.* '714 Patent, col. 26:4–8 (claiming “the optical reflector operable to receive at least some of the modulated first signal part and to communicate the at least some of the modulated first signal part to an *output interface*” (emphasis added)). Accordingly, the Court adopts Cheetah’s construction and construes the term “output interface” to mean “the portion of the system that receives the output signal.”

### **CONCLUSION**

For the foregoing reasons, the Court interprets the claim language in this case in the manner set forth above. The claims with the disputed terms in bold are set forth in Appendix A. For ease of reference, the Court's claim interpretations are set forth in a table as Appendix B.

**So ORDERED and SIGNED this 21st day of December, 2009.**

A handwritten signature in black ink, appearing to read 'Leonard Davis', written over a horizontal line.

**LEONARD DAVIS**  
**UNITED STATES DISTRICT JUDGE**

## APPENDIX A

### U.S. Patent No. 7,339,714

18. A light processing system, comprising:
- an optical divider operable to receive an **unmodulated optical signal** and to separate the unmodulated optical signal into a **first signal part** and a **second signal part**;
  - a **light pipe** operable to communicate at least the first signal part for processing;
  - an optical signal separator operable to receive at least the first signal part and to direct at least a portion of the first signal part for modulation;
  - an array of optical signal processing devices** located on one or more semiconductor substrates, the array of optical signal processing devices operable to receive at least some of the portion of the first signal part and to modulate that portion of the first signal part based at least in part on a control signal received from a controller, at least some of the optical signal processing devices comprise:
    - an inner conductive layer comprising an at least substantially conductive material;
    - a plurality of at least partially reflective mirrors disposed outwardly from the inner conductive layer and operable to receive at least some of the portion of the first signal part, wherein at least some of the mirrors are operable to undergo a partial rotation in response to the control signal, **the partial rotation resulting in a reflection of the at least some of the portion of the first signal part**, and wherein a majority of the reflected signal is communicated in one direction; and
  - a **moveable reflector** operable to receive at least some of the portion of the first signal part from the array of optical signal processing devices and to reflect that portion of the first signal part to an optical reflector, the optical reflector operable to receive at least some of the modulated first signal part and to communicate the at least some of the modulated first signal part to an **output interface**.
19. A method of processing one or more optical signals, the method comprising:
- separating an optical signal into a **first signal part** and a **second signal part**;
  - separating the first signal part into at least a first portion and a second portion;
  - receiving at least the first portion of the first signal part at **an array of optical signal processing devices**, the array of optical signal processing devices located on one or more semiconductor substrates and comprising a plurality of at least partially reflective mirrors disposed outwardly from an inner conductive layer, the inner conductive layer comprising an at least substantially conductive material;
  - performing an optical signal processing operation on at least the first portion of the first signal part, the optical signal processing operation comprising:
    - receiving at least some of the first portion of the first signal part at the at least partially reflective mirrors;
    - rotating at least some of the mirrors in response to one or more control signals, **the rotation of the at least some of the mirrors resulting in a reflection of the at least some of the**



**portion of the optical signal**, wherein a majority of the reflected optical signal is communicated in one direction;  
receiving at a **moveable reflector** at least some of the first portion of the first signal part from the array of optical signal processing devices and reflecting that portion of the first signal; and  
communicating at least some of the reflected first portion of the first signal part to an **output interface**.

**APPENDIX B**

<b>Claim Term</b>	<b>Court's Construction</b>
unmodulated optical signal	light beam carrying information
a first signal part and a second signal part	to separate the unmodulated optical signal into at least two parts
light pipe	conduit for transmitting light, for example, a fiber-optic line
an array of optical signal processing devices	a plurality of devices arranged in a regular pattern that process the optical signal
the partial rotation resulting in a reflection of the at least some of the portion of the first signal part  the rotation of the at least some of the mirrors resulting in a reflection of the at least some of the portion of the optical signal	rotating the mirrors to reflect at least some portion of the first signal part
moveable reflector	No Construction
output interface	the portion of the system that receives the output signal